

Center for Biological Diversity

Testimony Of Ileene Anderson

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Summary of Testimony

1. The proposed cumulative increase in diversions of water from the Santa Ana River will be detrimental to at least ten federally and state-listed threatened and endangered species under respective Endangered Species Acts, as well as numerous other rare species and natural communities.
2. The increased diversions proposed by the San Bernardino Valley Municipal Water District, the Western Municipal Water District, the Orange County Water District and the City of Riverside will further imperil federally and state-listed threatened and endangered species teetering on the brink of extinction, and drive other species closer to extinction and result in the need for additional species to be safeguarded under Endangered Species Act protection.

Background and Qualifications

3. I have 20 years of experience in identifying, surveying for and documenting natural resources in southern California, including the Santa Ana River.
4. I have a Master's of Science in Biology and a Bachelor's of Arts in Biology from the California State University, Northridge. I have continuing education in restoration/revegetation/reclamation of native habitats at the University of California, Riverside.
5. I have directed and participated in numerous field surveys for federally and state-listed threatened and endangered species, as well as other rare and common species. I have written results in conformance with the California Environmental Quality Act and the National Environmental Policy Act.

6. I have written, implemented and monitored a variety of restoration and revegetation plans, primarily implemented as mitigation.
7. I have published articles on these subjects in peer-reviewed scientific journals and presented papers/posters at scientific meetings.
8. I am currently a staff biologist with the Center for Biological Diversity, where I focus on native natural resource issues in primarily in San Bernardino, Riverside, Orange, Los Angeles and Kern counties.
9. My *Curriculum Vitae* is attached as CBD Exhibit 1-2

Uniqueness of the Santa Ana River from a Global Perspective

10. The California floristic province is an internationally recognized biodiversity hotspot because it is one of only five places on the planet where climatic conditions result in a Mediterranean climate with warm dry summers and cool moist winters. Additionally, California has great geographic diversity, resulting in a variety of different natural habitats for plants and animals. The Santa Ana River watershed exemplifies this uniqueness – from its headwaters on Mount San Gorgonio at 11,485 feet to its outflow at the Pacific Ocean, in a scant 96 miles.
11. Explosive urbanization coupled with natural rareness on the landscape level has resulted in numerous species' precipitous declining numbers, especially species that rely on surface water, riparian corridors or scouring hydrology and sediment deposition as part of their lifecycle or habitat.
12. Over 15 years ago, southern California was estimated to have lost over 98% of its wetlands, and over 90% of its riparian systems. Reducing the surface and subsurface flows through water diversions will continue to reduce the riparian and wetlands of the Santa Ana River and will have a devastating effect on the habitats and species.

13. The Seven Oaks Dam was constructed as a flood control, not a water storage structure. The impacts to the rare, threatened and endangered species from the construction of the dam are proposed to be mitigated through a series of measures that have yet to be implemented. The Army Corps of Engineers, the lead agency on the mitigation, is currently producing a draft Multiple Species Habitat Management Plan for the Santa Ana River wash area. However, no on-the-ground mitigation has been implemented to date, because the mitigation strategies are still at the experimental stages. For instance, the Army Corps of Engineers is still developing a censusing methodology to identify trends in San Bernardino kangaroo rat populations. They are also trying different methodologies (removal of competing exotics, mechanical means and high pressure water) to evaluate the best way to assure persistence of the Santa Ana River woollystar. At this time, the methodologies are not definitively successful. Therefore, uncertainty remains if techniques are truly available, especially on the large scale, to actually mitigate the numerous significant impacts to biological resources downstream of the Seven Oaks Dam.
14. Because of the unproven success of the mitigation methodologies, reliance on them for mitigation for any of the proposed projects is speculative at best.
15. Additional diversion of waters upstream of the Santa Ana River wash will eliminate the opportunity to implement successful mitigation of the Seven Oaks Dam.
16. Additional diversions will also prevent the Santa Ana River wash from receiving water that currently supports downstream riparian systems.
17. While the amount of water available to the wash and riparian systems is essential to maintaining them, the timing of flow events and mimicking historical hydrological and sedimentological processes are also essential to many species for lifecycle completion.

**Federally and State-listed Threatened or Endangered Species that Rely on
Santa Ana River**

18. The Santa Ana sucker fish (*Catostoma santaanae*) is the small native namesake fish of the Santa Ana River. It is a federally threatened species and a State species of concern throughout its range, which includes the Santa Ana and San Gabriel Rivers. See Exhibit 2. The United State Fish and Wildlife Service proposed Critical Habitat for the sucker fish in the Santa Ana River from just south of Colton downstream to Prado Basin, but this area was excised from the final critical habitat designation, because of the future implementation of the Western Riverside County Multiple Species Habitat Conservation Plan and the formation and work of the Santa Ana Sucker Conservation Team, which is made up the City of Riverside Regional Water Quality Control Plant, the City of San Bernardino Municipal Water Department, Orange County Resources Development Management Department, Orange County Water District, Orange County Sanitation District, Riverside County, Riverside County Flood Control and Water Conservation District and the San Bernardino County Flood Control District. However, this area remains critical to the survival of the fish in the Santa Ana River.
19. Unfortunately, according to the most recent data analyses by the Santa Ana Sucker Conservation Team's consultants in November 2006 (See CBD Exhibits 3-1 and 3-2), the Santa Ana suckerfish's population trajectory is on a statistically significant downward trend in the Santa Ana river, despite efforts from federal, state and local agencies and the Santa Ana Sucker Conservation Team.
20. Decreases of flows in the Santa Ana River areas where Santa Ana suckerfish are currently known to occur will further decrease the habitat for the Santa

Ana suckerfish. Additionally, any reductions in water quality may have a detrimental effect on this declining species.

21. The southwestern willow flycatcher (*Empidonax trailii extimus*) is a migratory songbird that nest and raise its young in dense patches of riparian woodlands interspersed with small openings, open water or shorter and sparser vegetation (i.e. a mosaic of vegetation). Almost always, surface water or saturated soils are present at or near the breeding sites. It is a federal and state-listed endangered species. The southwestern willow flycatcher used to be well distributed throughout the Santa Ana River watershed. The most current records have documented pairs at several locations between the Seven Oaks Dam and the Prado Flood Control Basin, and several pairs in Prado Basin itself. *See Exhibit 2.*
22. In 2005, the United States Fish and Wildlife Service designated Critical Habitat, habitat that is essential for the survival and recovery of the southwestern willow flycatcher. *See Exhibit 2.* Critical Habitat units are located along the main stem of the Santa Ana River above the confluence with San Timoteo Creek to the San Bernardino County Line. Critical Habitat is also designated directly above Seven Oaks Dam for the flycatcher. No Critical Habitat was designated in Riverside County because of the prior implementation of the West Riverside County Multiple Species Habitat Conservation Plan. Despite the absence of Critical Habitat for the flycatcher in Riverside County, extensive areas along the Santa Ana River currently provide appropriate habitat for the species and the birds are documented to occur there.
23. The Santa Ana River is a designated Management Unit in the Coastal Recovery Unit for the southwestern willow flycatcher Recovery Plan published by the United States Fish and Wildlife Service. When the Recovery Plan was published in 2002, thirty nine territories were identified for the flycatcher along the Santa Ana River. A recovery goal of fifty

territories on the Santa Ana River is required to downlist the species to threatened.

24. Decreasing the flows in the Santa Ana River will decrease surface water and subsurface saturation zones and the riparian vegetation that the flycatcher requires for successful nesting. This will result in reducing existing habitat along the Santa Ana River for nesting and any future recovery of the southwestern willow flycatcher. The proposed increase in the inundation level at Prado Basin will eliminate part of the cottonwood willow woodlands that currently exist there today, and replace them with a larger expanse of open water habitat that is unsuitable for the flycatcher. Both of these effects will decrease the habitat for the southwestern willow flycatcher and eliminate areas for recovery of the species.
25. The least Bell's vireo (*Vireo bellii pusillus*) is a migratory songbird that nest and raise its young in riparian woodlands typically in willows but also in other riparian vegetation. They chose dense vegetation to conceal their nests. They forage in both the riparian zone as well as in adjacent upland habitats. It is a state and federally listed endangered species. The vireo used to be well distributed throughout the Santa Ana River watershed, but now is documented to occur patchily along the Santa Ana River and in the Prado Basin. *See Exhibit 2.*
26. In 1994, the United States Fish and Wildlife Service designated Critical Habitat, habitat that is essential for the survival and recovery of the least Bell's vireo. *See Exhibit 2.* Critical Habitat unit is located along the mainstem of the Santa Ana River from two miles upstream of the Van Buren Bridge into Prado Basin.
27. In 1998, the United States Fish and Wildlife Service drafted a Recovery Plan for the least Bell's vireo. While the plan is not yet finalized, the Santa Ana River is one of the 14 populations/metapopulations that are identified for monitoring and recovery.

28. Decreasing the flows in the Santa Ana River will decrease the willow woodlands that this vireo requires for successful nesting, therefore reducing existing habitat along the Santa Ana River for potential nesting and any future recovery of the cuckoo. The proposed increase in the inundation level at Prado Basin will eliminate willow woodlands that currently exist there today, and replace them with open water habitat that is unsuitable for the vireo. Both of these effects will decrease the habitat for the least Bell's vireo and eliminate in perpetuity areas for recovery of the species.
29. The western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a migratory songbird that nest and raise its young in cottonwood and willow woodlands with a dense understory of foliage. It is a federal candidate species for protection under the Endangered Species Act. It is an endangered species under the California Endangered Species Act. The cuckoo used to be well distributed throughout the Santa Ana River watershed, but now is only documented to occur in the Prado Basin. It may also occur in the cottonwood willow forests just south of the Interstate 10.
30. Decreasing the flows in the Santa Ana River will decrease the cottonwood/willow woodlands that this species requires for successful nesting, therefore reducing existing habitat along the Santa Ana River south of Interstate 10 for potential nesting and any future recovery of the cuckoo. The proposed increase in the inundation level at Prado Basin will eliminate cottonwood willow woodlands that currently exist there today, and replace them with open water habitat that is unsuitable for the cuckoo. Both of these effects will decrease the habitat for the western yellow-billed cuckoo and eliminate areas for recovery of the species.
31. The San Bernardino kangaroo rat (*Dipodomys merriami parvus*) is a small nocturnal primarily seed-eating mammal that lives in a rare plant community called Riversidean alluvial fan sage scrub. It is a federally listed endangered animal and a state species of concern. The San Bernardino kangaroo rat lives

on fluvial terraces and relies on episodic inundation and scouring events that thin out vegetation. It is estimated that these habitat-forming events have occurred twice in the last 140 years (or at approximate 70 year intervals). The kangaroo rat prefers sandy area for burrowing in proximity to shrubs for cover and food sources.

32. In 2002, the United States Fish and Wildlife Service designated Critical Habitat, habitat that is essential for the survival and recovery of the San Bernardino kangaroo rat. *See Exhibit 2.* One Critical Habitat unit is located in the Santa Ana River Wash, just below Seven Oaks Dam.
33. In order for the San Bernardino kangaroo rat to survive and recover, the natural historic hydrological processes must be mimicked and continue to episodically inundate the fluvial terraces where the kangaroo rat lives. The estimates between episode range from once every 60 to 70 years. Adequate flows must be available to from the upper watershed to assure that the habitat's hydrological, geological and sedimentological processes can be mimicked.
34. The Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*) is a short-lived perennial plant species that also lives in the rare plant community, Riversidean alluvial fan sage scrub. *See Exhibit 2.* It is a state and federally listed endangered species. Like the San Bernardino kangaroo rat, the woollystar lives on "early stage" fluvial terraces and relies on episodic inundation and scouring events that thin out competing vegetation, disperse seeds and deposit substrates.
35. The most recent publicly available data from April 2004 on the woollystar in the Santa Ana River Wash indicates that over the course of the seven year monitoring of the plants in the Woolly Star Preserve Area, none of the sites had an increase in the number of individual plants, and all sites declined sharply between the third and fourth seasons and maintained low numbers through the seventh season. *See Exhibit 4.*

36. The natural historic hydrological processes must be mimicked and continue to episodically inundate the fluvial terraces where the woollystar live. The estimates between episodes range from once every 20 years to 50 years. Adequate flows and substrates must be available to from the upper watershed to assure that the habitat's hydrological, geological and sedimentological processes can be mimicked.
37. The slender-horned spineflower (*Dodecahema leptoceras*) is a small, very low growing annual plant that lives on the more mature fluvial terraces in the rare Riversidean alluvial fan sage scrub plant community. It is a state and federally listed endangered species. It is found within the shrub and tree interspaces on the more well-established, longer existing fluvial terraces within the fan.
38. As with the woollystar and the kangaroo rat, the natural historic hydrological processes must be mimicked and continue to inundate the fluvial terraces where the spineflower live. Little information on the estimates between inundation episodes is available for the spineflower, however because it occurs on older terraces, the events would be less frequent than for the woollystar and San Bernardino kangaroo rat habitat. Adequate flows and substrates must be available from the upper watershed to assure that the habitat's hydrological, geological and sedimentological processes can be mimicked.

Locally Extinct Species – Santa Ana River is Part of the Recovery Opportunity

39. A number of other federally and state listed endangered or threatened plants and animals were also known from the Santa Ana River, but have gone extinct in the area. The California red-legged frog (*Rana aurora draytonii*), Mark Twain's famous jumping frog of Calaveras County, used to be wide

spread in the drainages, but have not been recently documented. Several plants including the Gambel's water cress (*Nasturtium gambelii*), the salt marsh bird's beak (*Cordylanthus maritimus* ssp. *maritimus*) and the marsh sandwort (*Arenaria paludicola*) have also been historically documented along the Santa Ana River, but have not been recently documented and are thought to have gone extinct. However, the opportunity for restoration and re-establishment of these species is still possible as part of recovery efforts. Therefore, opportunity for potential future recovery for these species that have already gone extinct in the Santa Ana River basin, and are threatened with extinction in the remaining portions of their ranges, should not be precluded by limiting flows through diversions.

Other Rare Species, Whose Existence Depends on the Santa Ana River

40. Numerous other plants and animals that currently do not have Endangered Species Act protection, but are still recognized by the State and Federal resource agencies as rare, also will be negatively affected by reduced water availability and changes in hydrological and sedimentological regimes. Two species of riparian dependent birds, the yellow warbler (*Dendroica petechia brewsteri*) and the yellow-breasted chat (*Icteria virens*) are Species of Concern for the State of California. The western spadefoot toad (*Spea hammondi*) requires seasonally inundated pools for successful reproduction. The Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) requires the relatively open habitat that episodic inundation from flooding provides. The greenest tiger beetle (*Cicindela tranquebarica viridissima*) requires moist soils for larval development and one of the last known populations is located along the Santa Ana River. The bumblebee scarab beetle (*Lichnanthe apina*), was formerly abundant in the river bottom lands, along the Santa Ana River, but the population is reportedly in decline.

Parry's spineflower (*Chorizanthe parryi* var. *parryi*) shares a similar habitat with the slender-horned spineflower.

41. For all of these species, their habitat and breeding success will be diminished by reduction of flows and failure to mimic the historic hydrological processes in the Santa Ana river system, pushing them closer to extinction and the potential for listing under the Endangered Species Act.

Rare Plant Communities along the Santa Ana River

42. Numerous plant communities recognized and tracked by the State of California as rare occur along the Santa Ana River. Communities include the Riversidean Alluvial Fan Sage Scrub, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Mixed Riparian Forest, Southern Riparian Forest, Southern Riparian Scrub, Southern Sycamore Alder Riparian Woodland, and Southern Willow Scrub.
43. All of these rare plant communities will be negatively affected by water diversion from the Santa Ana River, because they all rely on adequate flows remaining in the river and/or episodic flooding and sediment deposition.

Conclusions

44. I would like to summarize my conclusions as follows:
 - Current and historical diversions of flows from the Santa Ana River have already helped push a number of plant and animal species to local extinction.
 - Current and historical diversions of flows from the Santa Ana River have already helped push a number of plant and animal species towards the brink of extinction, and resulted in state and federal protection of the remaining individuals and habitat under Endangered Species Acts.

- Additional diversion of water and failure to mimic historic hydrology and sedimentology will further reduce the habitat for these federally and state protected species currently on the brink of extinction, and preclude recovery to sustainable levels.
- Additional diversion of water and failure to mimic historic hydrology and sedimentology will negatively impact additional plants and animals pushing more of them towards extinction, and potentially causing additional listings under State and federal Endangered Species Acts.
- Additional diversion of water and failure to mimic historic hydrology and sedimentology will preclude the opportunity to re-establish plants and animals that have already gone extinct in the Santa Ana River basin and remain threatened throughout the rest of their ranges, ultimately precluding recover of the species to sustainable levels.